

National Testing Agency

Question Paper Name: Industrial Microbiology and Immunology
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Industrial Microbiology and Immunology

Group Number : 1
Group Id : 41652979
Group Maximum Duration : 0
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Revisit allowed for view? : No
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Break time: 0
Group Marks: 100

Industrial Microbiology and Immunology

Section Id : 41652979
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 100
Number of Questions to be attempted: 100
Section Marks: 100
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 41652980
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 4165296466 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Penicillium belongs to

- a) Ascomycetes
- b) Phycomycetes
- c) Basidiomycetes
- d) Deuteromycetes

Question Number : 2 Question Id : 4165296467 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Dextran production occurs when the medium contains

- a) glucose
- b) sucrose
- c) galactose

**Question Number : 3 Question Id : 4165296468 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

Hybridoma produces

- a) antigen
- b) normal antibody
- c) monoclonal antibody
- d) enzyme

**Question Number : 4 Question Id : 4165296469 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

Alexander Fleming discovered _____

- a) Chloramphenicol
- b) Tetracyclines
- c) Streptomycin
- d) Penicillin

**Question Number : 5 Question Id : 4165296470 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

If a medium allows the growth of a certain type of organisms, while inhibiting the growth of other organisms
Then it is known as _____

- a) Enriched medium
- b) Differential medium
- c) Selective medium
- d) None of the option

**Question Number : 6 Question Id : 4165296471 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

Eosin Methylene Blue (EMB) agar is a _____

- a) Enriched medium
- b) Differential medium
- c) Selective medium
- d) None of the option

**Question Number : 7 Question Id : 4165296472 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

In the liquid nitrogen storage process liquid nitrogen must be replenished regularly because

- a) microorganisms uses the nitrogen from the source
- b) it evaporates
- c) microorganisms convert it into different form
- d) none of the option

**Question Number : 8 Question Id : 4165296473 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical**

Correct Marks : 1 Wrong Marks : 0

Preservation of industrially important microbial strains is required to

- a) maintain its viability
- b) maintain its genetic stability
- c) protect it from contamination
- d) all of the options

Question Number : 9 Question Id : 4165296474 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Ultraviolet radiations with wavelength above 260 nm produce _____ in the DNA

- a) purine dimers
- b) breaks
- c) pyrimidine dimers
- d) distortions

Question Number : 10 Question Id : 4165296475 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Jumping genes are:

- a) Transposons
- b) Recombinant DNA
- c) Plasmids
- d) Cosmids

Question Number : 11 Question Id : 4165296476 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cosmids are recombinant vectors that combine features of both _____ and _____

- a) plasmid and cDNA
- b) plasmid and bacteriophage
- c) rDNA and bacteriophage
- d) None of the option

Question Number : 12 Question Id : 4165296477 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

cDNA is also produced naturally by

- a) Bacteria
- b) Fungi
- c) Retroviruses
- d) Plants

Question Number : 13 Question Id : 4165296478 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

pBR322 and pUC18 are examples of _____

- a) Bacteriophages
- b) plasmids
- c) cosmids
- d) yeast artificial chromosomes

Question Number : 14 Question Id : 4165296479 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of lobes in the nucleus of neutrophil is

- a) 5
- b) 6
- c) 7
- d) 9

Question Number : 15 Question Id : 4165296480 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which among the following are the major requirements in brewery industrial?

- a) Glucose
- b) Molasses
- c) Sucrose
- d) All of the options

Question Number : 16 Question Id : 4165296481 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Corn steep liquor is a major source of

- a) Carbohydrate
- b) Vitamins
- c) Inducer
- d) Nitrogen

Question Number : 17 Question Id : 4165296482 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Sulfite waste liquor is obtained from

- a) Corn
- b) Cheese
- c) Paper pulp
- d) Wheat

Question Number : 18 Question Id : 4165296483 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which phase of bacterial growth there is cell doubling at maximum rate?

- a) Log phase
- b) Lag phase
- c) Stationary phase
- d) Death phase

Question Number : 19 Question Id : 4165296484 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

During which phase of bacteria growth are secondary metabolites produced?

- a) Secondary phase
- b) Lag phase
- c) Log phase
- d) Death phase 20

Question Number : 20 Question Id : 4165296485 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

All stirred tank bioreactors must be equipped with

- a) Spargers
- b) Baffles
- c) Impellers
- d) Foam breaker

Question Number : 21 Question Id : 4165296486 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Substrates used for solid state fermentation are

- a) Cereal grains
- b) Bagasse
- c) Wood chips
- d) All of the options

Question Number : 22 Question Id : 4165296487 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Food preservation involves

- a) increasing shelf life of food
- b) ensuring safety for human consumption
- c) both a and b
- d) none of the option

Question Number : 23 Question Id : 4165296488 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

"Bacteriaproof" filters are made of _____

- a) sintered glass
- b) diatomaceous earth
- c) unglazed porcelain & membrane pads
- d) All of the options

Question Number : 24 Question Id : 4165296489 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is the sublimation of water from a frozen food by means of a vacuum plus heat applied at the drying shelf

- a) Freeze drying
- b) solar drying
- c) drum drying
- d) None of the option

Question Number : 25 Question Id : 4165296490 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ foods are shelf stable foods that normally do not spoil or decay

- a) Non-perishable
- b) Perishable
- c) Semi-perishable
- d) None of the option

Question Number : 26 Question Id : 4165296491 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Most modern microbiological filters are thin membranes of

- a) cellulose acetate and polycarbonate
- b) sintered glass
- c) diatomaceous earth
- d) unglazed porcelain

Question Number : 27 Question Id : 4165296492 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The yogurt starter culture is a mixed population of _____

- a) *S. thermophilus* and *L. bulgaricus*
- b) *Bifidobacterium* and *Leuconostoc*
- c) *Propionibacterium* and *Streptococcus*
- d) *Pediococcus* and *Lactobacillus*

Question Number : 28 Question Id : 4165296493 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lactococcus lactis has two subspecies, *lactis* and *cremoris*, both of which are essential in manufacture of many varieties of _____

- a) Buttermilk
- b) Cheese
- c) Kefir
- d) All of the option

Question Number : 29 Question Id : 4165296494 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Vinegar is produced by

- a) Lactic acid bacteria
- b) Acetic acid bacteria
- c) Yeasts
- d) *Aspergillus* spp

Question Number : 30 Question Id : 4165296495 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Percentage of acetic acid in vinegar is

- a) 4-13%
- b) 13-20%
- c) 21-24%
- d) 24-30%

Question Number : 31 Question Id : 4165296496 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The word vinegar means

- a) Acetic acid
- b) Sour wine
- c) Old wine
- d) All of the option

Question Number : 32 Question Id : 4165296497 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which bacteria is commonly employed in the production of vinegar?

- a) *E. coli*
- b) *Clostridium* spp
- c) *Aspergillus* spp
- d) *Acetobacter* spp

Question Number : 33 Question Id : 4165296498 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Fermented foods are foods produced by?

- a) Animals
- b) Plants
- c) Microorganisms
- d) Milk 34

Question Number : 34 Question Id : 4165296499 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Soysauce is produced by

- a) Lactic acid bacteria
- b) Aspergillus spp
- c) Yeasts
- d) All of the option

Question Number : 35 Question Id : 4165296500 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Fermented bean curd is known as

- a) Tufu
- b) Shiro
- c) Sufu
- d) Liquid aminos

Question Number : 36 Question Id : 4165296501 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Who is known as the Father of Fermented Dairy Products?

- a) Aristotle
- b) Kowsikowski
- c) Metchnikoff
- d) Louis Pasteur

Question Number : 37 Question Id : 4165296502 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Milk sugar lactose is composed of

- a) Glucose and Ribose
- b) Ribose and Galactose
- c) Glucose and Galactose
- d) None of the above

Question Number : 38 Question Id : 4165296503 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Starter cultures used in yoghurt production are

- a) Streptococcus thermophilus and Lactobacillus bulgaricus
- b) Streptococcus faecalis and Lactobacillus bulgaricus
- c) Streptococcus thermophilus and Lactobacillus delbrueckii
- d) Streptococcus faecalis and Lactobacillus delbrueckii

Question Number : 39 Question Id : 4165296504 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Who industrialized the production of yoghurt

- a) Metchnikoff
- b) Issac Carasso
- c) Stamen Grigorov
- d) Daniel

Question Number : 40 Question Id : 4165296505 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

"Live microbial food ingredients that are beneficial to health" are

- a) Antibiotics
- b) Probiotics
- c) Prebiotics
- d) Synbiotics

Question Number : 41 Question Id : 4165296506 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Single-cell protein (SCP) typically refers to

- a) Dried microbial biomass
- b) Dried animal protein
- c) Dried fungal mycelia
- d) Synthetic Protein

Question Number : 42 Question Id : 4165296507 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Production of Single-cell protein is required to

- a) Fulfill the amount of proteins due to fewer animals in developing countries
- b) Fulfill the protein deficiency in human and animal food
- c) Decrease the animal protein consumption
- d) Replace the use of microbial protein with conventional protein

Question Number : 43 Question Id : 4165296508 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The first commercial SCP used in animal feed and was prepared from the bacteria

- a) *Methylophilus methylotropus*
- b) *Lactobacillus bulgaricus*
- c) *Brevibacterium* sp
- d) *Bacillus subtilis*

Question Number : 44 Question Id : 4165296509 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The disadvantages of algal SCP are:

- a) Rich in chlorophyll content, which is not suitable for human consumption
- b) High risk of contamination
- c) Recovery methods are costly
- d) All of the option

Question Number : 45 Question Id : 4165296510 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Wine is aged in

- a) Oak barrels
- b) Stainless steel tanks
- c) Glass reactor
- d) Mud lined vessel

Question Number : 46 Question Id : 4165296511 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Wine with carbon dioxide

- a) Still wine
- b) Sparkling wine
- c) Dry wine
- d) Sweet wine

Question Number : 47 Question Id : 4165296512 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The instrument that measures sugar in grape

- a) Manometer
- b) Refractometer
- c) Ammeter
- d) Hydrometer

Question Number : 48 Question Id : 4165296513 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Tryptone is the source of

- a) phosphorus
- b) carbon
- c) nitrogen
- d) calcium

Question Number : 49 Question Id : 4165296514 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cholecalciferol is the other name of vitamin

- a) D₁
- b) D₂
- c) D₃
- d) E.

Question Number : 50 Question Id : 4165296515 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The following is a secondary metabolite

- a) glutamate
- b) pyruvate
- c) ampicillin
- d) aspartate

Question Number : 51 Question Id : 4165296516 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Lemon is famous for

- a) malic acid
- b) citric acid
- c) tartaric acid
- d) gallic acid

Question Number : 52 Question Id : 4165296517 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which among the following are the major sources of enzymes in nature

- a) Plants
- b) Microorganisms
- c) Animals
- d) All of the option

Question Number : 53 Question Id : 4165296518 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Enzyme rennin is an example of

- a) Acid protease
- b) Alkaline protease
- c) Alfa amylase
- d) Cellulase

Question Number : 54 Question Id : 4165296519 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Starch is a polymer made of

- a) Amylose and amylopectine
- b) Amylase and amylopectine
- c) Amylose and amylase
- d) None

Question Number : 55 Question Id : 4165296520 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Detergent industry mostly uses

- a) Amylases
- b) Neutral protease
- c) Acid protease
- d) Alkaline protease

Question Number : 56 Question Id : 4165296521 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which fungi is mostly used for industrial production of amylase

- a) Trichoderma reesei
- b) Candida utilis
- c) Bacillus subtilis
- d) Aspergillus spp

Question Number : 57 Question Id : 4165296522 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Aspartame, the artificial sweetener is

- a) An enzyme
- b) A vitamin
- c) An amino acid
- d) A protein

Question Number : 58 Question Id : 4165296523 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Biosynthesis of glutamic acid is an example of

- a) Glycosidic bond formation
- b) Decarboxylation
- c) Schiff's base
- d) Transaminase reaction

Question Number : 59 Question Id : 4165296524 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An example of essential amino acid is

- a) Lysine
- b) Glutamic acid
- c) Alanine
- d) Tyrosine

Question Number : 60 Question Id : 4165296525 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Secondary metabolites of microbes are formed during this phase of growth

- a) exponential
- b) stationary
- c) death
- d) Lag

Question Number : 61 Question Id : 4165296526 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The best way to preserve the culture strains are _____

- a) active spores
- b) mycelium
- c) inactive spores
- d) lyophilized cells

Question Number : 62 Question Id : 4165296527 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is not an APC?

- a) Dendritic cell
- b) Macrophages
- c) B-lymphocytes
- d) Mast cell

Question Number : 63 Question Id : 4165296528 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Phagocytosis is not shown by

- a) Neutrophil
- b) Macrophage
- c) Dendritic cells
- d) T lymphocytes

Question Number : 64 Question Id : 4165296529 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hematopoiesis is

- a) Generation of blood cells
- b) Generation of heart cells
- c) Generation of liver cells
- d) Generation of spleen cells

Question Number : 65 Question Id : 4165296530 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is a non nucleated cell?

- a) Monocytes
- b) Lymphocytes
- c) Mast cells
- d) RBC

Question Number : 66 Question Id : 4165296531 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

macrophages in the liver are called

- a) Kupffer cells
- b) Mesangial cells
- c) Microglial cells
- d) Osteoclasts

Question Number : 67 Question Id : 4165296532 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Immunogenicity of a molecule depends on

- a) Foreignness
- b) Heterogeneity
- c) Molecular weight
- d) All of the option

Question Number : 68 Question Id : 4165296533 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Immunoglobulins are secreted from

- a) Plasma cells
- b) Activated T cells
- c) Macrophages
- d) Neutrophils

Question Number : 69 Question Id : 4165296534 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Adaptive immunity is found in

- a) All living system
- b) Jawed vertebrates
- c) Plants
- d) Animals

Question Number : 70 Question Id : 4165296535 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The affinity between an antibody and antigen is denoted by

- a) K_a
- b) K_d
- c) K_v
- d) K_b

Question Number : 71 Question Id : 4165296536 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Each B cell displays approximately

- a) 1.5×10^5 molecules of antibody on the membrane
- b) 1.5×10^4 molecules of antibody on the membrane
- c) 1.5×10^6 molecules of antibody on the membrane
- d) 1.5×10^4 molecules of antibody on the membrane

Question Number : 72 Question Id : 4165296537 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is part of the acquired immune system?

- a) Macrophages
- b) Mast cells
- c) B- lymphocytes and T lymphocytes
- d) Neutrophils

Question Number : 73 Question Id : 4165296538 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Memory of the immunogen is kept by

- a) Innate immune system
- b) adaptive immune system
- c) both innate and adaptive
- d) none of the above

Question Number : 74 Question Id : 4165296539 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Oxygen dependent killing of organisms is mediated by

- a) Reactive oxygen species
- b) Reactive nitrogen species
- c) a+b
- d) None of the above

Question Number : 75 Question Id : 4165296540 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Dendritic cells in skin are called

- a) Langerhans cells
- b) Kupffer cells
- c) Osteoclast
- d) Microglial cell

Question Number : 76 Question Id : 4165296541 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which immunoglobulin isotype crosses the placenta?

- a) IgA
- b) IgG
- c) IgM
- d) IgE

Question Number : 77 Question Id : 4165296542 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many heavy and light chains are present in an immunoglobulin?

- a) 2 and 2
- b) 2 and 4
- c) 4 and 2
- d) 3 and 3

Question Number : 78 Question Id : 4165296543 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Isotype is determined by the

- a) Sequence of the constant region of heavy chain
- b) Sequence of the constant region of light chain
- c) Sequence of the constant region of both the chains
- d) Sequence of the variable region of heavy chain 78

Question Number : 79 Question Id : 4165296544 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many Ig classes are present in human?

- a) 5
- b) 4
- c) 3
- d) 2

Question Number : 80 Question Id : 4165296545 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which Ig isotype is responsible for causing allergy?

- a) IgG
- b) IgE
- c) IgM
- d) IgA

Question Number : 81 Question Id : 4165296546 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Diversity to Ig V region after activation of B cells comes through

- a) somatic hypermutation
- b) clonal selection
- c) germ line rearrangement
- d) none of the above

Question Number : 82 Question Id : 4165296547 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Hybridomas are made from combining

- a) monoclonal antibodies with myeloma cells
- b) B cells with specific epitopes
- c) B cells with myeloma cells
- d) monoclonal antigens with myeloma cells

Question Number : 83 Question Id : 4165296548 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

MHC class II antigens are restricted to __ T lymphocytes

- a) CD4
- b) CD8
- c) CD2
- d) CD34

Question Number : 84 Question Id : 4165296549 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

MHC class I antigens are restricted to __ T lymphocytes

- a) CD4
- b) CD8
- c) CD2
- d) CD34

Question Number : 85 Question Id : 4165296550 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

MHC class I antigen is expressed by

- a) B lymphocytes
- b) T lymphocytes
- c) APC cells
- d) All nucleated cells

Question Number : 86 Question Id : 4165296551 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Granzyme mediated killing needs help from the bivalent cation

- a) Ca²⁺
- b) Mg²⁺
- c) Zn²⁺
- d) Fe²⁺

Question Number : 87 Question Id : 4165296552 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Fas-Fas Ligand interaction initiates

- a) Apoptosis
- b) Phagocytosis
- c) ADCC
- d) Opsonization

Question Number : 88 Question Id : 4165296553 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The coreceptor present on the surface of TH cells is

- a) CD4+
- b) CD8+
- c) CD6+
- d) CD2+

Question Number : 89 Question Id : 4165296554 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cytokines generally have a molecular mass of less than

- a) 30 kDa
- b) 20 kDa
- c) 10 kDa
- d) 40 kDa

Question Number : 90 Question Id : 4165296555 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

IL-4 is essential for the development of a

- a) TH2 response
- b) TH1 response
- c) Both TH1 and TH2
- d) B cell

Question Number : 91 Question Id : 4165296556 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How long immunity persists after DPT vaccination?

- a) 1 to 2 years
- b) Three to five years
- c) Five or more years
- d) Ten years

Question Number : 92 Question Id : 4165296557 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which vaccination provides life-long immunity?

- a) measles,
- b) mumps,
- c) rubella
- d) all of the option

Question Number : 93 Question Id : 4165296558 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Name the preservatives usually present in vaccines?

- a) Monosodium glutamate (MSG)
- b) 2-phenoxyethanol
- c) Thimerosal
- d) All of the option

Question Number : 94 Question Id : 4165296559 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which vaccine of the followings is given orally?

- a) Salk
- b) Sabin
- c) BCG
- d) Small pox

Question Number : 95 Question Id : 4165296560 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Why adjuvants are added to the vaccine?

- a) To improve immunogenicity
- b) To preserve the vaccine
- c) to inactivate the vaccine
- d) to increase the safety of the vaccine

Question Number : 96 Question Id : 4165296561 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following vaccines is not included in recombinant DNA vaccines?

- a) DNA vaccine
- b) Live attenuated vaccine
- c) Recombinant inactivated vaccine
- d) Recombinant vector vaccine

Question Number : 97 Question Id : 4165296562 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

recombinant DNA vaccines belong to

- a) first generation vaccine
- b) second generation vaccine
- c) third generation vaccine
- d) fourth generation vaccine

Question Number : 98 Question Id : 4165296563 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Gene gun deliveries require -----times less DNA than intramuscular saline injection

- a) 1-10
- b) 10-100
- c) 100-1000
- d) 1000-10,000

Question Number : 99 Question Id : 4165296564 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Virus like particles belong to

- a) DNA vaccine
- b) Live attenuated vaccine
- c) Recombinant inactivated vaccine
- d) Recombinant vector vaccine

Question Number : 100 Question Id : 4165296565 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following is used as a vaccine vector?

- a) E.coli
- b) Vaccinia virus
- c) Streptococcus sp
- d) Hepatitis virus